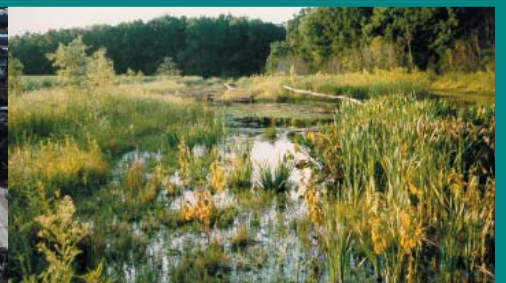




## Chapter 6: Land use





## Chapter 6: Land Use

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This chapter provides information on land use characteristics for South Wilmington, following the geography shown in Figure 6.1., which is the cumulative area of the 91 Census blocks shown in Figure 1.3., an area that includes the Southbridge neighborhood as well as developments along the New Castle/Route 9 corridor. Included in the chapter are discussions of general patterns of land use and also zoning regulations and distributions in South Wilmington, as of 2002.

Areas of land use patterns and zones were calculated using ArcMap (8.3).

### **South Wilmington**

#### **Key Numbers:**

##### **Land use patterns:**

*Total acres: 982.7\**

Industrial: 556.6 acres (56.6 percent of South Wilmington)

Urban: 172.7 acres (17.6 percent)

Natural areas/wetlands: 84.8 acres (8.6 percent)

Other: 62.1 acres (6.3 percent)

Transportation: 51.7 acres (5.3 percent)

Residential: 41.4 acres (4.2 percent)

Recreational: 13.3 acres (1.4 percent)

##### **Zoning:**

*Total acres: 984.0\**

Manufacturing: 521.7 acres (53.0 percent of South Wilmington)

Waterfront development: 246.6 acres (25.0 percent)

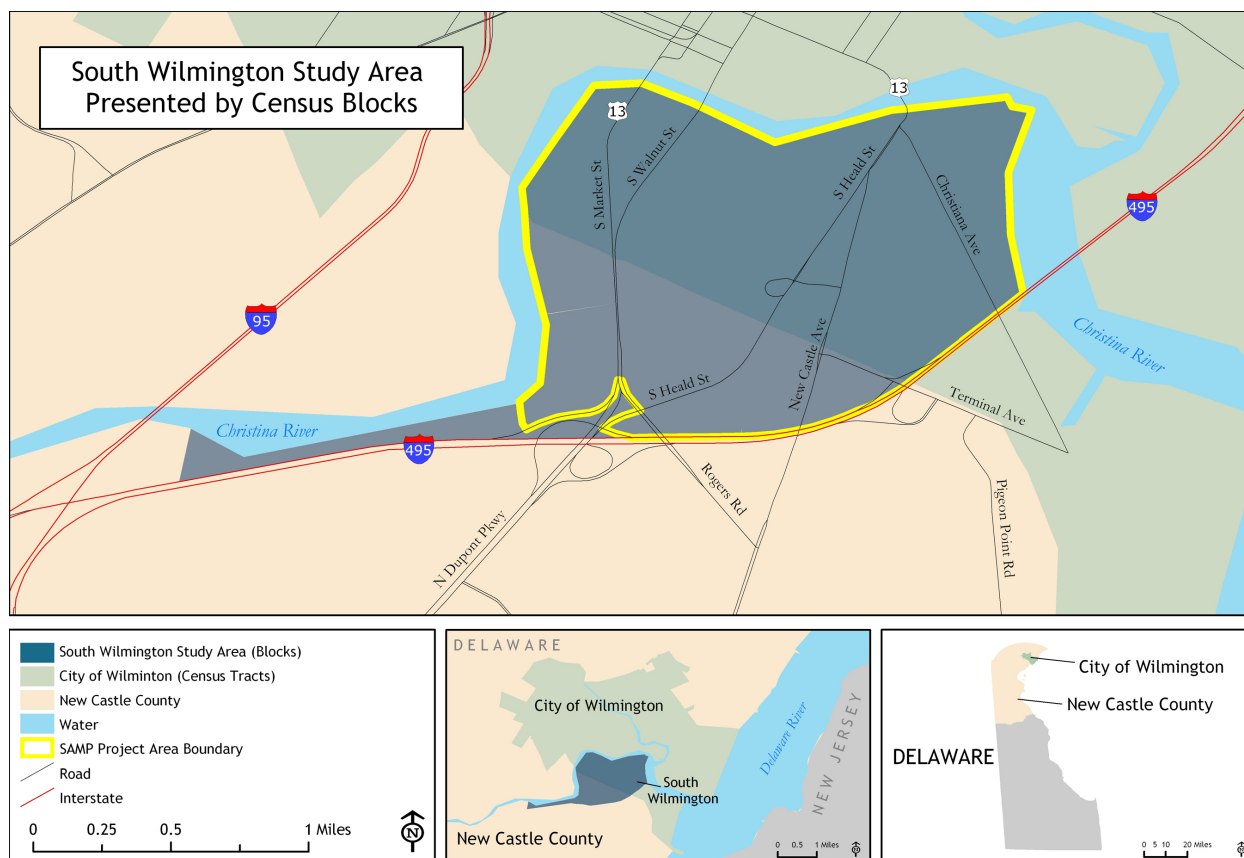
Residential: 104.1 acres (10.6 percent)

Commercial: 94.9 acres (9.6 percent)

Open space: 17.0 acres (1.7 percent)

*\*Numbers vary due to rounding.*

*Source: Delaware Spatial Data Implementation Team (I-Team), 2002*



**Figure 6.1.** The South Wilmington study area used in this chapter of the report, which represents the cumulative area of the 91 Census blocks shown in Figure 1.3.

Sources: Delaware Department of Transportation, 2001; U.S. Census Bureau, 2000

## 6.a. General Land Use Characteristics

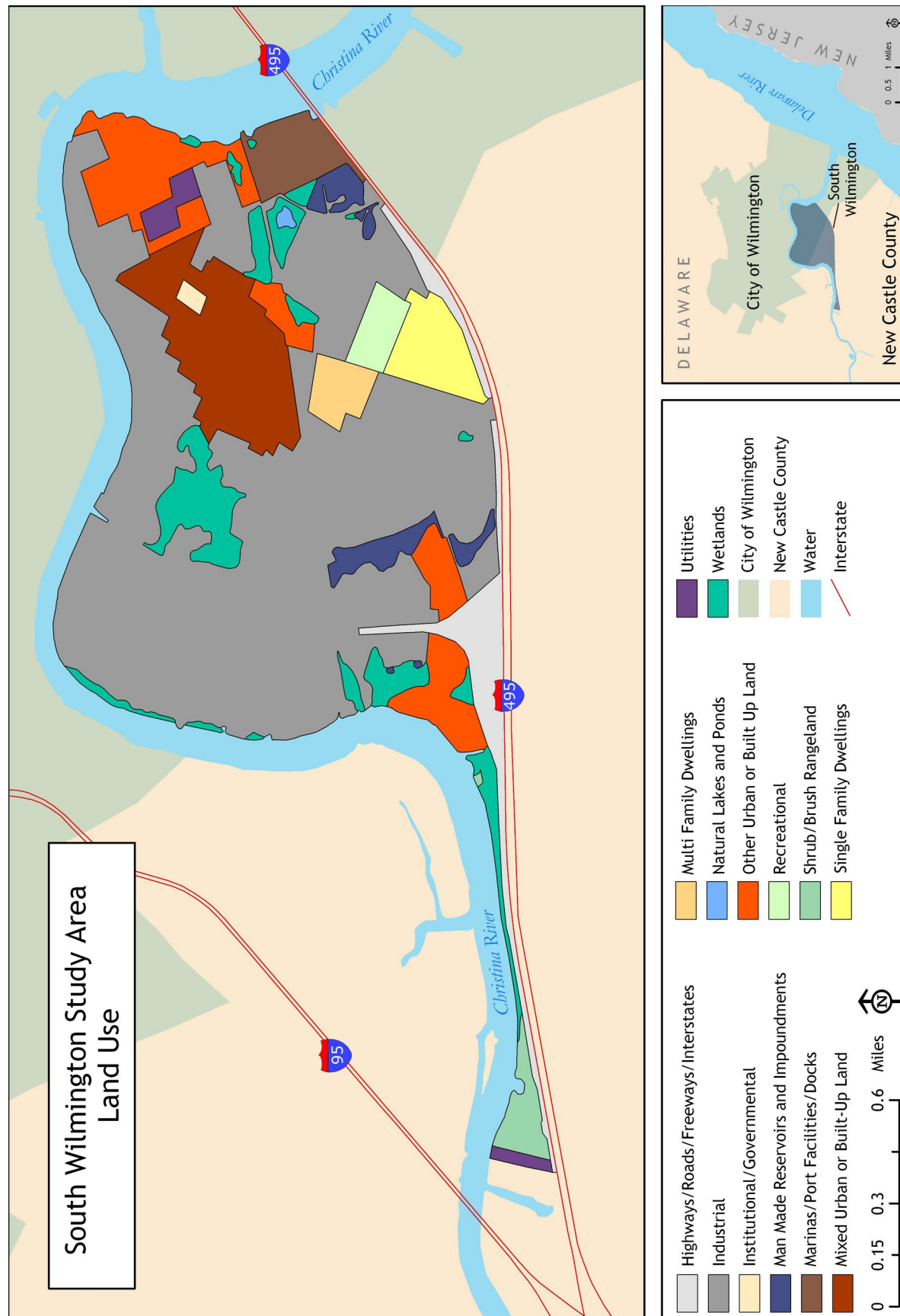
South Wilmington has a diverse mix of land uses, as is shown by the 2002 land use map shown in Figure 6.2. Land use patterns on the map were designated using the Anderson Classification System, which is a national, standardized system developed by the U.S. Geological Survey to define and classify lands by how they are being used (Anderson, Hardy, Roach, & Witmer, 1976).

As shown in Table 6.1. and Figure 6.3., in 2002, the majority of South Wilmington land (56.6 percent) was classified as being used for industrial activities. Under the Anderson Classification System, industrial areas are used for activities from light manufacturing (e.g., those focused on the design and production of products) to heavy manufacturing (e.g., those using raw materials such as iron ore or coal).

South Wilmington was also characterized by large sections of land being urban in nature. Urban areas are defined to include areas that are covered by permanent structures (and thus include cities, towns, etc.), as well as land having a use that is “nonconforming,” meaning it fits multiple classifications (e.g., may be used for both residential and urban activities). Following areas used for industrial and urban activities, wetlands were the next largest area of land in South Wilmington.

In 2002, under the Anderson Classification System, approximately 4.3 percent of South Wilmington was being used for residential purposes (single- and multi-family dwellings). Residential areas include structures (housing units), driveways, and lawn areas, as well as any associated parking areas. Residential areas which are integral parts of other land uses may be classified under a different land use (e.g., urban); thus, although only 41.4 acres on the map were defined as being residential, much of the residential land was categorized as being “urban” and the actual area of residential housing in South Wilmington may have been greater.



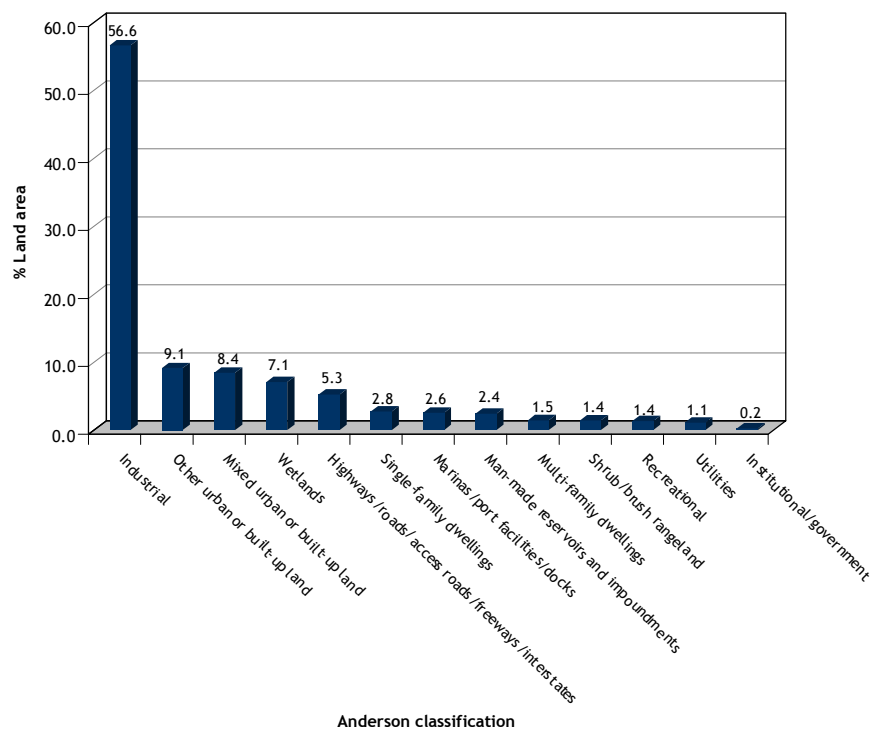


**Figure 62.** South Wilmington land use map for 2002.  
 Source: Delaware Spatial Data Implementation Team (I-Team), 2002

Anderson Classification	Area (acres)	% Total area
Industrial	556.6	56.6
Other urban or built-up land	89.8	9.1
Mixed urban or built-up land	82.9	8.4
Wetlands	69.5	7.1
Highways/roads/access roads/freeways/interstates	51.7	5.3
Single-family dwellings	27.1	2.8
Marinas/port facilities/docks	25.1	2.6
Man-made reservoirs and impoundments	23.7	2.4
Multi-family dwellings	14.3	1.5
Shrub/brush rangeland	14.1	1.4
Recreational	13.3	1.4
Utilities	10.9	1.1
Institutional/government	2.4	0.2
Natural lakes and ponds	1.2	0.1
<b>Total</b>	<b>982.7</b>	<b>100.0</b>

**Table 6.1.** Anderson classification and area of land in South Wilmington.

Source: Delaware Spatial Data Implementation Team (I-Team), 2002



**Figure 6.3.** Percent area of land in South Wilmington classified under the Anderson Classification System.

Source: Delaware Spatial Data Implementation Team (I-Team), 2002

- ◆ Over half of land in South Wilmington was used for industrial activities.

## 6.b. Zoning

This section reviews 2002 zoning for South Wilmington and includes zones defined by both the City of Wilmington and New Castle County.

As can be seen in Table 6.2. and Figures 6.4. and 6.5., South Wilmington was zoned for a wide variety of uses, and includes residential, commercial, manufacturing or industrial, and waterfront development districts, as well as areas designated as “open space.”

Approximately 10.6 percent of South Wilmington was zoned for residential use. Residential zoning in the area located within the City of Wilmington included one-family row houses (R-3) and low-density apartment homes (R-5-A). In the section of the study area falling under New Castle County zoning, residential zoning was represented by Neighborhood Conservation (NC-5) districts, which are zoned to protect the “existing character” of older residential developments (New Castle County, 2004).

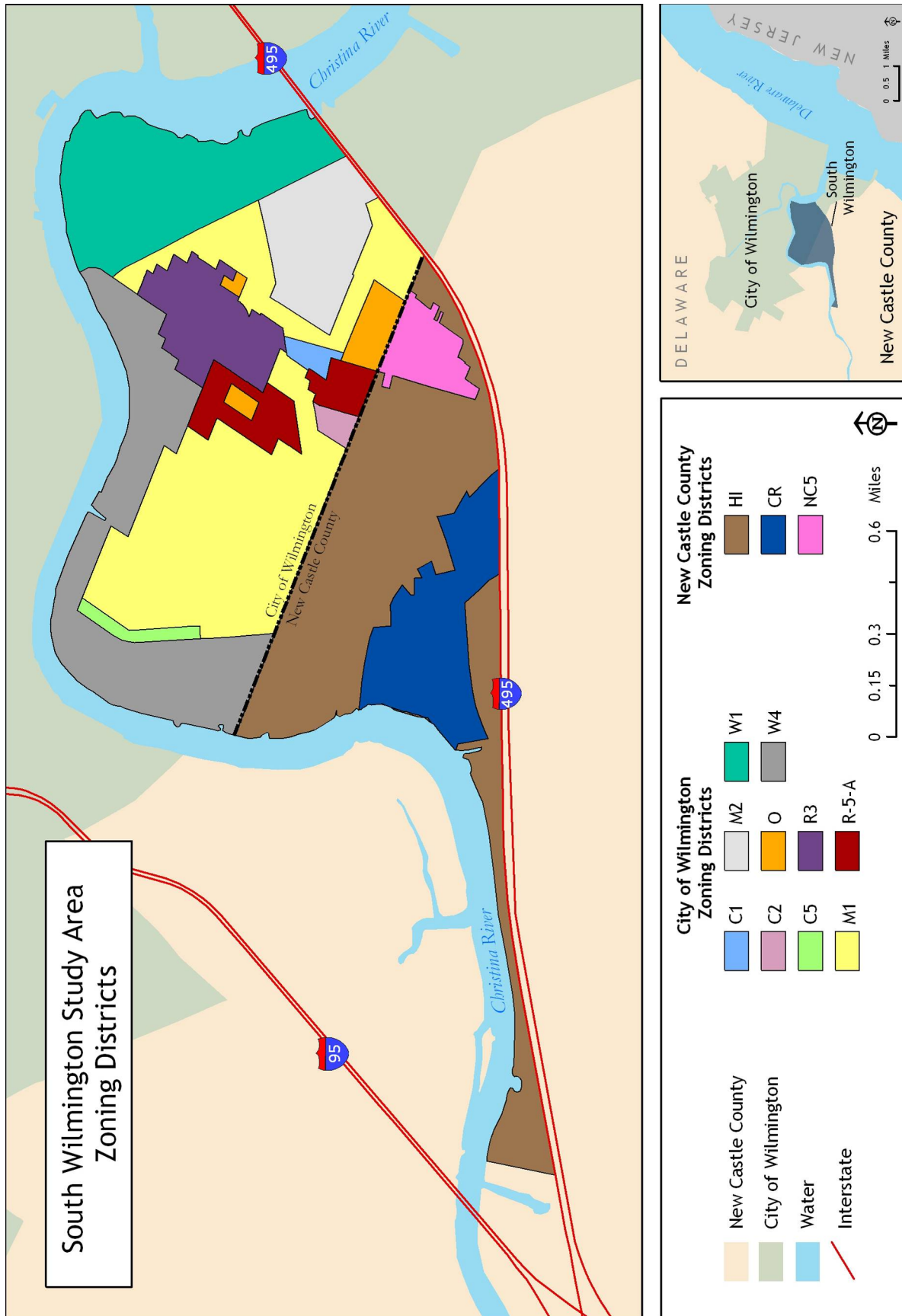
City of Wilmington zoned commercial districts in South Wilmington included neighborhood shopping (C-1), secondary business commercial centers (C-2) that provide for both shopping and business needs, and heavy commercial sites for large wholesale and storage establishments that attract heavy truck traffic (C-5) (City of Wilmington, 2005a). A part of South Wilmington was zoned for commercial use under the New Castle County Commercial, Regional (CR) district, which provides commercial services to suburban communities (New Castle County, 2004).

South Wilmington was also zoned for manufacturing and industrial uses. The City of Wilmington M-1 zone, which accounts for 22.1 percent of South Wilmington land in 2002, permits activities associated with light manufacturing, scientific research, and wholesale warehousing or storage. The M-2 zone includes heavy industrial sites designed to provide areas where large-scale industries can find suitable sites served by rail, water, and highway transportation; no new residential development is permitted in M-2 zoned areas. Areas zoned for Heavy Industry (HI) are intended for larger, heavy industrial developments that can cause noise, air pollution, or other adverse impacts to residential areas (City of Wilmington, 2005a).

Areas along the Christina River were zoned for waterfront manufacturing (W-1) or waterfront residential commercial use (W-4). W-1 districts allow for manufacturing and heavy industrial uses that require access to transportation networks (e.g., rail, water, highways). W-4 districts allow for residential, retail, or commercial development along the riverfront (City of Wilmington, 2005a).

Areas in South Wilmington designated as open space (O) represented 1.7 percent of the study area. Open spaces are designed to provide recreation and “permanent light and air” to surrounding districts. These areas can be used for public parks, playgrounds, or recreational activities (City of Wilmington, 2005a).



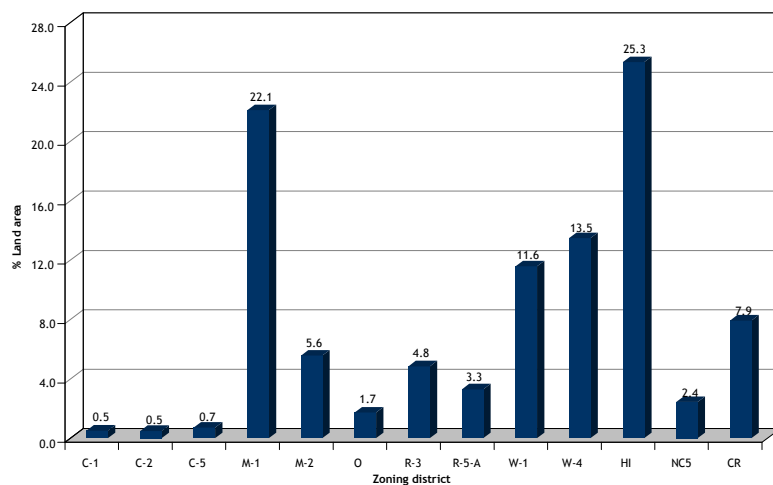


**Figure 64.** South Wilmington zoning map for 2002.  
 Source: Delaware Department of Natural Resources and Environmental Control, 2002

Zoning	Area (acres)	% Total area
<b>City of Wilmington zones:</b>		
C-1 (Neighborhood shopping)	5.1	0.5
C-2 (Secondary business commercial centers)	4.8	0.5
C-5 (Heavy commercial)	7.0	0.7
M-1 (Light manufacturing)	217.5	22.1
M-2 (General industrial)	54.8	5.6
O (Open space)	17.0	1.7
R-3 (One-family row houses)	47.7	4.8
R-5-A (Low-density apartment houses)	32.0	3.3
W-1 (Waterfront manufacturing)	114.0	11.6
W-4 (Waterfront residential/commercial)	132.6	13.5
<b>New Castle County zones:</b>		
HI (Heavy Industry)	249.4	25.3
NC5 (Neighborhood Conservation)	24.0	2.4
CR (Commercial Regional)	78.1	7.9
<b>Total</b>	<b>984.0</b>	<b>100.0</b>

**Table 6.2.** Area of zoning districts in South Wilmington.

Source: Delaware Department of Natural Resources and Environmental Control, 2002



**Figure 6.5.** Percent area of zoning districts in South Wilmington.

Source: Delaware Department of Natural Resources and Environmental Control, 2002

- ◆ Over half of land in South Wilmington was zoned for industrial or manufacturing use (zones M-1, M-2, and HI).